

REMARKS

The Office Action mailed on August 29, 2006, has been reviewed and the comments of the Patent and Trademark Office have been considered. Prior to this paper, claims 1, 3, 4, 6, 7 and 9-27 were pending, with claims 11-25 being withdrawn from prosecution. By this paper, Applicants do not cancel or add any claims. Therefore, claims 1, 3, 4, 6, 7 and 9-27 remain pending.

Applicants respectfully submit that the present application is in condition for allowance for at least the reasons that follow.

Rejections Under 35 U.S.C. §112, Second Paragraph

In the Office Action, claim 26 was rejected under 35 U.S.C. §112, second paragraph, as being indefinite. As seen above, in order to advance prosecution, and without prejudice or disclaimer, claim 26 has been amended.

Applicants further traverse the assertion that the claim is indefinite under 35 U.S.C. §112, second paragraph. In this regard, the PTO misconstrues the MPEP as preventing an applicant from utilizing claim language as present in claim 26, as opposed to its provision that merely stipulates that the PTO will examine claims utilizing the proffered claim language as not invoking means-plus-function language (assuming *arguendo* that the present claim language conforms to the guidelines detailed in the MPEP). Specifically, all that the cited MPEP section (§2181) states is that a “claim limitation will be interpreted to invoke 35 U.S.C. 112, sixth paragraph if it meets [a] 3-prong analysis,” the third prong being prong “C” duplicated at the bottom of page 2 of the Office Action. **This means that if the limitation is modified by sufficient structure, the limitation will be examined as not invoking 35 U.S.C. §112, sixth paragraph. It does not mean that if the limitation is modified by sufficient structure, the claim is indefinite.**

Applicants respectfully request withdrawal of the rejection of claim 26.

Claim Rejections Under 35 U.S.C. §103(a)

In the Office Action, claims 1, 3, 4, 6, 7, 9, 10, 26 and 27 are rejected under 35 U.S.C. §103(a) as being unpatentable over Judge (United States Patent No. 4,682,444) in view of JP 10-217090. Applicants traverse the rejection of these claims, and respectfully submit that all pending claims are allowable for at least the following reasons.

Applicants rely on MPEP § 2143, which states that:

[t]o establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

It is respectfully submitted that at least the first and third criteria of MPEP § 2143 have not been met in the Office Action.

The Cited References Do Not Suggest All Claim Recitations

Even if the first requirement of MPEP § 2143 could be satisfied with the cited references (which it cannot, as explained below), the cited references still do not meet the third requirement, which is that “the prior art reference (or references when combined) must teach or suggest all the claim limitations.”

As a preliminary matter, the Office Action asserts, in its “Response to Arguments” at the bottom of page 4 of the Office Action, that setting the stroke and offset parameters to optimize the operation of the device to arrive at the present invention (features admittedly not explicitly taught in any of the cited references) would have been well within the knowledge of one of ordinary skill in the art. However, the Office Action contains no evidence supporting this alleged fact that is so critical to finding the present claims obvious.

It appears that the Office Action relies on common knowledge in the art, as is discussed and permitted in MPEP § 2144.03, to satisfy the third requirement of MPEP § 2143. However, Applicants note that § 2144.03 allows an applicant “to traverse such an assertion,” and that when an applicant does so, “the examiner should cite a reference in support of his or her position.” (MPEP § 2144.03, second paragraph.) Absent a citation by the PTO of a reference that can be evaluated for all its teachings, Applicants hereby traverse the assertion that it would have been common knowledge in the art the features of the present invention regarding the offset displacement would be obvious to one of ordinary skill in the art for optimization purposes. **Applicants thus request, relying on § 2144.03 that the PTO cite a reference and exactly identify where such a reference teaches the alleged common knowledge, or else allow the claims.**

Further, with regard to the assertion that the present invention would be arrived at through routine optimization efforts, Applicants respectfully point to *In re Antonine*, the case cited in MPEP § 2144.05 II (Optimization of Ranges). Referring to *In re Antonine*, the MPEP states that a

particular parameter must *first* be recognized as a result-effective variable, i.e., a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation. *In re Antonine* (citations omitted). (The claimed wastewater treatment device had a tank volume to contractor area of 0.12 gal./sq. ft. The prior art did not recognize that treatment capacity is a function of the tank volume to contractor ratio, and therefore the parameter optimized was not recognized in the art to be a result-effective variable.)

(Emphasis added.) As in *In re Antonine*, the prior art does not recognize that the recited claim features are result-effective variables, and no evidence has been proffered to the contrary. Accordingly, a *prima facie* case of obviousness has not been established for at least this reason.

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Claim 1 recites that the pressure applying mechanism

*operatively holds the plurality of shoes on the rear side of the lapping film in different contact areas in a partially overlapping relationship at a central region of the target shaped periphery of the workpiece and in non-overlapping relationship in both terminal regions of the target shaped periphery such that the plurality of shoes are held in opposing offset positions **with offset displacement of each of the plurality of shoes set to be less than an oscillation stroke** provided by the oscillating mechanism to allow the central region of the target shaped periphery to be lapped at a greater rate than those at which other regions of the target shaped periphery are lapped, resulting in the target shaped periphery having a surface profile formed in a mid-concave profile.*

(Emphasis added.)

The PTO recognizes that Judge has deficiencies with respect to the above-highlighted language, and asserts that JP '070 remedies these deficiencies, asserting that it “appears” to disclose the missing elements of Judge, this assertion being arrived at by scaling the figures of JP '070 to allegedly show that the shoes are held in offset positions as claimed.

Applicants point out that it is extremely unlikely and unnecessary that the relation between the offset displacement of the lap shoes 2 and the oscillation stroke of the work 1 of JP '070 are taken into account in such a device. Also, as shown in Fig. 2, if the work 1 is oscillated with the larger oscillation stroke, the lapping paper 3 instantly rides on the curved surfaces of the work 1 while the offset displacement of the lap shoes 2 are with the relatively large dimension. *This results in the phenomenon that the offset displacement of the lap shoes 2 is larger than the oscillation stroke of the work 1.* Moreover, the structure of JP '070 is governed by a design constraint that prevents the work 1 from being over lapped to make the recesses 6 at the end portions of the oscillation stroke.

JP '090 relates to a paper lapping apparatus having a lapping paper 3. Indeed, in Fig. 2, the lap shoes 2 are displaced in the axial direction X. However, as noted above, the objective of JP '090 is to prevent the work 1 from being over lapped to make the recesses 6 at the end portions of the oscillation stroke “S”, as is depicted in Fig. 4. Thus, this is the reason why JP '090 teaches the structures depicted in Figs. 1 and 2 in which the lap shoes 2 have

lapping regions that are asymmetrically set along the axis “X”. JP ’090 thus does not remedy the deficiencies of Judge with respect to claim 1.

Moreover, there are additional deficiencies of Judge not recognized in the Office Action that cannot be remedied by JP ’070. In the invention of claim 1, to achieve the target shaped periphery of the surface finished workpiece with a surface profile formed in a mid-concave profile in a manner **that is both precise and affords flexibility**, the structure recited in claim 1 includes a plurality of shoes that are held in opposing offset positions with the offset displacement of each of the plurality of shoes being set less than the oscillation stroke that is provided by the oscillating mechanism.

The teachings of Judge are quite limited. For example, while Judge relates to an improved microfinishing apparatus and method using a belt 30, Judge does not disclose or suggest obtaining a product that is advantageous with respect to lubricating properties with a mid-concave shape by the use of a lapping process in which the shoes are offset as claimed. Thus, the elements of claim 1 missing from Judge are not suggested by Judge, and, as such, the structure claimed in claim 1 is not suggested either.

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Applicants also refer to their prior arguments detailing the deficiencies of the alleged combination of Judge and JP ’090, these arguments being incorporated herein by reference in their entirety.

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In sum, even if the first requirement of MPEP § 2143 could be satisfied, the third requirement of MPEP § 2143 is not satisfied in the Office Action with respect to claim 1, because the cited references do not teach each and every element of the present invention. .

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Because the combination of Judge and JP '090 fails to teach or suggest each and every element of the invention of claim 1, the combination fails to render obvious any claim that ultimately depends from claim 1, and thus the dependencies of claim 1 are allowable.

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Claim 26 is duplicative of claim 1, except that it embraces the use of means-plus-function claim language pursuant to 35 U.S.C. 112, 6th paragraph. The cited references do not disclose or suggest the structure of claim 26 as is interpreted under 35 U.S.C. §112, 6th paragraph, in view of the teachings of the specification, and the Office Action, which evinces the Examiner's recognition that the MPEP stipulates that means-plus-function language is to be examined differently, does not contain a proper rejection of claim 26 in view of the MPEP. That is, the rejections outlined in the Office Action in view of claim 26, **which is merely lumped in with the rejection of claim 1**, does not comport with the requirements of MPEP §2183 for examining claims under 35 U.S.C §112, 6th paragraph, which states that if "the examiner finds that a prior art element (A) performs the function specified in the claim, (B) is not excluded by any explicit definition provided in the specification for an equivalent, and (C) is an equivalent of the means- (or step-) plus function limitation, *the examiner should provide an explanation and rationale in the Office Action as to why the prior art element is an equivalent.*" (Emphasis added.) No such explanation or rationale is present in the Office Action.

Regardless, even if claim 26 was not interpreted under 35 U.S.C. §112, 6th paragraph, the claim would still be allowable for at least the pertinent reasons that make claim 1 allowable.

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Claim 27 is a method claim that is concomitant with the result of utilizing the apparatus of claim 1, and thus is also allowable for the pertinent reasons detailed above.

Lack of Suggestion or Motivation to Modify or Combine the References

MPEP § 2143.01 states that “the prior art *must* suggest the desirability of the invention.” (MPEP § 2143.01, subsection 1, emphasis added.) The Office Action all but relies on Applicants’ disclosure for motivation to modify the primary reference to arrive at the inventions as claimed, and the Office Action cites nothing in the prior art that provides *specific* motivation to modify the references to arrive at any of the independent claims. Instead, the Office Action provides the circular rationale that because a secondary reference (JP ’090) teaches an element missing from the primary reference (Judge), it would have been obvious to combine the two references because the secondary reference allegedly teaches advantages of general implementation of that reference.¹ Applicants submit that such rationale is circular and relies on impermissible hindsight. Moreover, this rationale would vitiate the first requirement of MPEP § 2143. This is because an overwhelming number of patents published by the JPO tout advantages of some sort or another (indeed, the JPO utilizes the problem-solution approach), and if the first requirement of MPEP § 2143 could be met by simply pointing to such advantages (or other advantages that are not taught), there would always be motivation to modify/combine references once a patent is found that teaches the missing element(s) of the primary reference.

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As to the specifics of the alleged motivation to modify/combine the references, the Office Action asserts that it “would have been obvious . . . to modify the invention of Judge et al. with the offset arrangement as taught by JP ’090 to prevent local excessive shaving.” Applicants disagree that such desirability is found in the teachings of JP ’090.

True, in the “problem to be solved” section of the abstract of JP ’090, JP ’090 states that the problem to be solved is to “prevent local excessive shaving,” just as is quoted in the Office Action. However, JP ’090 immediately provides, as a solution, the use of an asymmetrically arranged pair of lap shoes, with reference to Fig. 1. The abstract does not comment on whether an offset arrangement “prevents local excessive shaving.” Thus, the

¹ Which it does not, as detailed below.

rationale proffered in the Office Action does not rise to the standard required by MPEP § 2143.01, and a *prima facie* case of obviousness has not been established.

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MPEP § 2144.05(III), entitled Rebuttal Of *Prima Facie* Case Of Obviousness, states that a “*prima facie* case of obviousness may also be rebutted by showing that the art, in any material respect, teaches away from the claimed invention.” (MPEP § 2144.05(III), second paragraph, emphasis added, citations omitted.)

As previously noted, neither cited reference teaches or suggest the claimed features as they relate to producing a mid-concave profile. In fact, JP '090 teaches away from this feature, because JP '090 teaches that it seeks to “improve *straightness* of a finishing surface.” (Problem to be solved section, emphasis added.) Thus, far from imparting a mid-concave profile onto the work piece, JP '090 seeks to eliminate such a profile. Furthermore, Judge teaches that its assembly results in a “barrel shaped” cam. Therefore, both references in fact teach away from the invention as claimed. Thus, to the extent that a *prima facie* case of obviousness might have been established, such case is hereby rebutted.

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In summary, because of the lack of suggestion or motivation in the prior art to modify the reference, the first requirement of MPEP § 2143 was not met in the Office Action with respect to the claims as previously pending, and cannot now be met, as detailed above, and, hence, a *prima facie* case of obviousness has not been established.

Request for Rejoinder of Withdrawn Claims

Claims 11-25 stand withdrawn. Applicants note that these claims depend either directly or ultimately from claim 1. Applicants respectfully request that these claims be rejoined and allowed due to their dependency from claim 1, a claim that is allowable. Applicants respectfully submit that no significant burden is placed on the PTO by rejoining and examining these claims. Indeed, such action is concomitant with the indication that

“upon allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim.”

Conclusion

Applicants believe that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check or credit card payment form being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

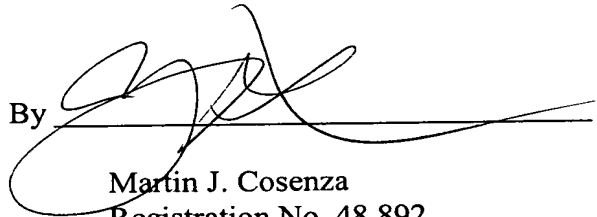
Examiner Shakeri is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

Respectfully submitted,

Date

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By



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